

Search of MRID list of Pendimethalin studies. This database has approximately 15 citations per page times 159 pages = approximately 2400 citations (all unpublished). Search terms used: “dermal,” “penetration,” “rate,” & “skin absorption.” “Dermal” was most successful search term regarding dermal absorption rates. “Rates” was the most successful search term regarding dissipation rates. The following citations were found with these search terms.

MRID CITATIONS RE: PENDIMETHALIN DERMAL ABSORPTION RATES

MRID 129088 Steller, W.; Tondreau, R.; Nielsen, R. (1979) Prowl Pendimethalin (CL 92,553, 4E): Determination of Inhalation and Dermal Exposure to CL 92,553 and CL 94,269 during Field Application and Incorporation of Prowl Herbicide (Tulare Co., CA, 1978): Report No. C- 1541. (Unpublished study received May 17, 1979 under 241-243; submitted by American Cyanamid Co., Princeton, NJ; CDL:238510-B)

MRID 45734801 Leibold, E. (2002) (Carbon 14)-BAS 455 H--Study of the Dermal Absorption in Rats: Final Report: Lab Project Number: 2002/1004519: 01B0715/016020. Unpublished study prepared by BASF Aktiengesellschaft. 27 p. {OPPTS 870.7600}

MRID 46234603 Hess, F. (2004) Request for U.S EPA to Consider Reducing the Current Dermal Penetration Estimation for Pendimethalin (BAS 455H) from 10% to 3%: (Humans). Project Number: 2004/5000244. Unpublished study prepared by BASF Corp. 9 p.

MRID 46241201 Canez, V.; Panara, J.; Kasiri, A. (2004) Determination of Dermal Transfer Efficiency of Pendimethalin (BAS 455 H in Pendulum 3.3 EC) Residues from Turf to Wetted Hands and Validation of BASF Analytical Method D0306. Project Number: 131396, 2003/5000470, D0306. Unpublished study prepared by BASF Agro Research and Grayson Research, Ltd. 107 p.

MRID 46285201 Gamer, A.; Beimborn, D.; Leibold, E. (2003) 14C-BAS 455 H - Study of Penetration Through Rat and Human Epidermis in Vitro. Project Number: 53H0715/012283, 2003/1020085. Unpublished study prepared by BASF Aktiengesellschaft. 68 p.

MRID CITATIONS RE: PENDIMETHALIN DISSIPATION RATES

MRID 45136801 Kukel, C. (2000) CL 92553 (Pendimethalin): Rate of Dissipation of CL 92553 Residues in Air and Soil After Treatment with Prowl 3.3 EC Herbicide Applied Pre-Plant Incorporated (PPI) to Soybeans in Indiana, U.S: Lab Project Number: PR98IN01: A011.294: A011.310. Unpublished study prepared by American Cyanamid Company, Heartland Technologies, H.E.R.A.C., Inc. and Maxim Technologies. 207 p.

MRID 45136802 Kukel, C. (2000) CL 92553 (Pendimethalin): Rate of Dissipation of CL 92553 Residues in Air and Soil After Treatment with Prowl 3.3 EC Herbicide Applied Pre-Emergence (PE) to Cotton in Louisiana, U.S: Lab Project Number: PR98LA02: A011.295: A011.311. Unpublished study prepared by American Cyanamid Company, H.E.R.A.C., Inc. and Maxim Technologies. 214 p.

MRID 45364705 Horton, W. (2001) CL 92553 (Pendimethalin): Comparison of the Rate of Dissipation of CL 92553 Residues in Soil Following a Single Preemergent Application of Either

Prowl 3.3 EC Herbicide or Prowl 3.8 CS Herbicide to Cotton in Mississippi: Lab Project Number: RES 00-040: PR98MS01: M 820.04. Unpublished study prepared by BASF Agro Research Corporation and Maxim Technologies, Inc. 199 p.

MRID 45364706 Horton, W. (2001) CL 92553 (Pendimethalin): Comparison of the Rate of Dissipation of CL 92553 Residues in Soil Following a Single Pre-Plant Incorporation of Either Prowl 3.3 EC Herbicide or Prowl 3.8 CS Herbicide to Soybeans in Indiana: Lab Project Number: RES 00-039: PR9907: PR9907IN01. Unpublished study prepared by BASF Agro Research Corporation. 198 p.

MRID 46591216 Sisco, R. (1992) CL 92, 553 (Pendimethalin): Residues of CL 92, 553 and its Metabolite CL 202, 347 in Alfalfa Green Forage and Hay Following a Postemergence, Aerial Application of Prowl 4EC Herbicide at One of Two Different Rates (Post; NE, 1988). Project Number: C3754, PN/731/020, PR88NE02. Unpublished study prepared by American Cyanamid Co., Stewart Agricultural Research Services and Midwest Research, Inc. 89 p.

46591217 Sisco, R. (1992) CL 92, 553 (Pendimethalin): Residues of CL 92, 553 and its Metabolite CL 202, 347 in Alfalfa Green Forage, Processed Meal, and Hay Following Two Sequential, Postemergence Broadcast Applications of Prowl 4EC Herbicide (Post; NY, 1988). Project Number: C3755, PN/731/021, PR88NY01. Unpublished study prepared by American Cyanamid Co., Environmental Technologies Institute, Inc. and Agricultural Chemicals Development Services, Inc. 78 p.

46591218 Sisco, R. (1992) CL 92, 553 (Pendimethalin): Residues of CL 92, 553 and its Metabolite CL 202, 347 in Alfalfa Green Forage, Processed Meal, and Hay Following a Sequential Postemergence Broadcast Applications of Prowl 4EC Herbicide (Post; NY, 1988). Project Number: C3756, PN/371/022, PR88NY02. Unpublished study prepared by American Cyanamid Co., Environmental Technologies Institute, Inc and Agricultural Chemicals Development Services, Inc. 77 p.

46591219 Sisco, R. (1992) CL 92, 553 (Pendimethalin): Residues of CL 92, 553 and its Metabolite CL 202, 347 in Alfalfa Green Forage, Hay, and Process Meal Following Two Sequential, Postemergence Broadcast Applications of Prowl 4EC Herbicide (Post; WI, 1988). Project Number: C3757, PN/731/023, PR88WI01. Unpublished study prepared by American Cyanamid Co., Stewart Agricultural Research Services and Great Lakes Agricultural Research Serv. 93 p.

46591220 Sisco, R. (1992) CL 92, 553 (Pendimethalin): Residues of CL 92, 553 and its Metabolite CL 202, 347 in Alfalfa Green Forage, Hay, and Process Meal Following One Postemergence Broadcast Application of Prowl 4EC Herbicide (Post; WI, 1988). Project Number: C3758, PN/731/024, PR88WI02. Unpublished study prepared by American Cyanamid Co., Stewart Agricultural Research Services and Great Lakes Agricultural Research Serv. 91 p.

46591221 Kleiner, A. (1992) CL 92, 553 (Pendimethalin/4EC): Residues of CL 92, 553 and CL 202, 347 in Alfalfa (Post; PA, 1991). Project Number: C3811, PN/731/025, PR91PA01. Unpublished study prepared by American Cyanamid Co., Labservices, Inc. and A & L Bibliography Page 131 of 159 Eastern Agricultural Labs. Inc. 73 p.

46591222 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; CA, 1991). Project Number: C3812, PN/731/026, PR91CA01.

Unpublished study prepared by American Cyanamid Co., Chemtec, Inc. and A & L Western Agricultural Labs. 65 p.

MRID 46591223 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; CA, 1991). Project Number: C3813, PN/731/027, PR91CA02. Unpublished study prepared by American Cyanamid Co., Melton Agricultural Research and Harris Environmental Tech. 68 p.

MRID 46591224 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; NE, 1991). Project Number: C3814, PN/731/028, PR91NE01. Unpublished study prepared by American Cyanamid Co., Midwest Research, Inc. and Harris Environmental Tech. 69 p.

MRID 46591225 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; WI, 1991). Project Number: C3815, PN/731/029, PR91WI01. Unpublished study prepared by American Cyanamid Co., Great Lakes Ag Research Service and Harris Environmental Tech. 67 p.

MRID 46591226 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; IA, 1991). Project Number: C3816, PN/731/030, PR91IA01. Unpublished study prepared by American Cyanamid Co., Agri-Research Corp. and Harris Environmental Tech. 64 p.

MRID 46591227 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; KS, 1991). Project Number: C3817, PN/731/031, PR91KS01. Unpublished study prepared by American Cyanamid Co., Servi-Tech Inc. and Harris Environmental Tech. 68 p.

MRID 46591228 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; MN, 1991). Project Number: C3818, PN/731/032, PR91MN01. Unpublished study prepared by American Cyanamid Co. and Agri-Growth Research, Inc. and Harris Environmental Tech. 70 p.

MRID 46591229 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; ID, 1991). Project Number: C3819, PN/731/033, PR91ID01. Unpublished study prepared by American Cyanamid Co., Varco Ag. Research & Consulting and Harris Environmental Tech. 75 p.

MRID 46591230 Kleiner, A. (1992) CL 92,553 (Pendimethalin/4EC): Residues of CL 92,553 and CL 202,347 in Alfalfa (Post; MI, 1991). Project Number: C3820, PN/731/034, PR91MI01. Unpublished study prepared by American Cyanamid Co., Agsearch and Harris Environmental Tech. 64 p.

MRID 46591231 Horton, W.; Kukel, C. (2002) BAS 455 H (CL 92553, Pendimethalin): Residues of BAS 455 H in Alfalfa Forage and Alfalfa Hay After Applications of Prowl 3.3 EC Herbicide or Prowl 3.8 CS (BAS 455 21 H) Herbicide, U. S. Project Number: RES/02/031, 82585, 2001876. Unpublished study prepared by BASF Agro Research, Agro-Tech, Inc. and Ashgrow Crop Management Systems, Inc. 93 p.

MRID 46591232 Horton, W.; Kukel, C. (2002) BAS 455 H (CL 92553, Pendimethalin): Residues of BAS 455 H and its Metabolite (CL 202347) in Alfalfa Seed and Alfalfa Seed Screenings After

Bibliography Page 132 of 159 Applications of Prowl 3.3 EC Herbicide (BAS 455 36 H) or Prowl 3.8 CS (BAS 455 21 H) Herbicide, U. S. Project Number: RES/02/032, 67050, 2002/7011022. Unpublished study prepared by BASF Agro Research, Agraserv Inc. (ASI) and Prairie Agricultural Research, Inc. 64 p.

MRID 49207703 Hassink, J.;Kuhnke, G. (2012) BAS 455 H - Rate of Degradation in European Soils. Project Number: 364229, 2011/1257593. Unpublished study prepared by BASF Corporation. 74p. 49207704 Warren, R.;Nejad, H. (2013) Comparison of Pendimethalin (BAS 455 H) Degradation Kinetics at Various Dose Rates in Aerobic Soil. Project Number: 3380, 2013/7002400. Unpublished study prepared by BASF Corporation. 46p.

MRID 49207705 Nejad, H.; Traversa, E. (2013) Pendimethalin: Anaerobic Soil Metabolism of ¹⁴C-BAS 455 H. Project Number: 394100, 2011/7000043. Unpublished study prepared by BASF Corporation. 185p.

Pendimethalin Amphibian Studies containing the term “frog,” “amphibian,” or “toad” from the MRID Study list*

MRID 47164600 Croplife America (2007) Submission of Environmental Fate and Exposure and Risk Data in Support of the Preservation of the California Red Legged Frog. Transmittal of 2 Studies.

MRID 47164601 Moore, D.; Breton, R.; Rodney, S.; et al. (2007) Generic Problem Formulation for California Red-Legged Frog. Project Number: 89320, 05232007. Unpublished study prepared by Cantox Environmental Inc. 87 p.

MRID 47164602 Holmes, C.; Vamshi, R. (2007) Data and Methodology Used for Spatial Analysis of California Red Legged Frog Observations and Proximate Land Cover Characteristics. Project Number: 3152007, WEI/252/03. Unpublished study prepared by Waterborne Environmental, Inc. (WEI). 19 p.

*According to EPA person, Micheal Yanchulis of the EPA OPP Information Services Branch, who provided the list, the entire MRID list of approximately 1500 studies, which was searched with terms listed in the title, represents all of the studies conducted with Pendimethalin that were submitted to EPA for registration purposes. These three studies are the only ones that had the search term “frog” in the citation title. The last two studies by Moore and Holmes would not seem to be relevant to dermal absorption. No relevant studies were found when the terms “dermal,” “absorption,” or “skin” as pertaining to amphibians of any sort.

Acute Oral Toxicity Studies with Pendimethalin (CAS# 40487-42-1)

MRID 52575 Morici, I.J.; Alford, B.T.; Babcock, C.N.; et al. (1972) Toxicology Report on 3,4-Xylidine, N-(1-ethylpropyl)-2,6-dinitro-; Acute Studies and 30-Day Feedings in Rats, Mice, and Dogs. (CL 92,553): Report No. 72-4. (Unpublished study received Sep 27, 1974 under 5F1556; submitted by American Cyanamid Co., Princeton, N.J.; CDL:094233-G)

MRID 106754 Morici, I.; Alford, B.; Babcock, C.; et al. (1972) Toxicology Report on 3,4-Xylidine, N-(1-Ethylpropyl)-2,6-dinitro-; Acute Studies and 30-day Feedings in Rats, Mice, and Dogs. (CL 92, 553): Report No. 72-4. (Unpublished study received on unknown date under 5G1567; submitted by American Cyanamid Co., Princeton, NJ; CDL:094285-B)

MRID 78769 Ralston Purina Company (1980) Granular Ornamental Herbicide F-9529: Acute Oral Toxicity: RT Lab No. 807123. (Unpublished study received Jul 10, 1981 under 538-172; submitted by O.M. Scott & Sons Co., Marysville, Ohio; CDL:245519-C)

MRID 78770 Ralston Purina Company (1980) Granular Ornamental Herbicide F-9529: Acute Dermal Screen: RT Lab No. 807123. (Unpublished study received Jul 10, 1981 under 538-172; submitted by O.M. Scott & Sons Co., Marysville, Ohio; CDL:245519-D)